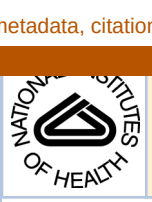

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Assessing and Promoting Physical Activity in African American Barbershops: Results of the FITStop Pilot Study

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Abstract

This study assessed the feasibility of recruiting African American men in barbershops, assessing their physical activity, conducting physical measurements, and gauging their interest in barbershop-based health research. The authors recruited African American shop owners (n = 4), barbers (n = 6), and customers (n = 90) from four barbershops in Raleigh and Durham, North Carolina, during 2009. The participation levels were high among owners (100%), barbers (67%), and customers (81%). In addition to completing a self-administered survey, 57% (51/90) of the customers completed physical measurements. According to self-reported data, 34% (30/88) of the customers met national physical activity recommendations within the last week. Customers expressed moderately high interest in learning more about health at barbershops and joining a barbershop-based physical activity contest. The estimated recruiting cost per customer was $105.92. Barbershops offer an effective setting for recruiting African American men and conducting physical measurements as well as an interesting possible location for conducting future interventions.

Keywords

African American men; barbershops; physical activity

Introduction

Heart disease and cancer are the two leading causes of death in the United States (American Cancer Society, 2009). Alarming racial disparities exist such that African American men have a higher prevalence of total cardiovascular disease (CVD), mortality from stroke and heart disease, and overall cancer incidence and mortality when compared with White men (American Heart Association, 2009; National Center for Health Statistics, 2009; Ward et al., 2004). An estimated 70% of deaths from CVD and 50% of cancer deaths could be prevented with lifestyle changes, such as stopping tobacco use, maintaining a healthy weight, and increasing physical activity (American Cancer Society, 2005; Forman & Bulwer, 2006).

Current physical activity guidelines recommend that adults should accumulate at least 150 min of moderate intensity activity per week (U.S. Department of Health and Human Services, 2008). However, current physical activity levels are low among U.S. adults, with

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39% considered to be inactive and only 31% engaging in leisure-time physical activity on a regular basis (Pleis & Lucas, 2009). African American men have higher levels of inactivity when compared with White men (51% vs. 37%; Pleis & Lucas, 2009), which undoubtedly contributes to the existing disparities in CVD and cancer. Clearly, we need strategies for reaching out to African American men and providing programs and services that will help increase physical activity and ultimately help eliminate these disparities.

Barbershops are an important social and cultural setting for African American men because they are a place to create and maintain local culture and a sense of community (Alexander, 2003; Franklin, 1985; Staten, 2001; Williams, 1993; Wright & Calhoun, 2001). Licensed barbers and shop owners have access to, and trusted relationships with, large numbers of African American men, and their shops offer a place where men regularly discuss a variety of topics, including health (Hart & Bowen, 2004). To date, most of the health-related research in barbershops has focused on prostate cancer education (Hart et al., 2008; Magnus, 2004) and hypertension (Hess et al., 2007; Victor et al., 2009), with little or no emphasis on physical activity. Moreover, very little is known about the best barbershop and customer recruitment strategies, feasibility of conducting screening tests in barbershops, customer interest in barbershop-based health promotion (including physical activity), and the willingness of shop owners and barbers to promote such efforts. Barbershops therefore represent a promising, yet underexplored, setting for reaching African American men and developing programs that promote healthy lifestyles, including increased physical activity.

In this study, we assess the feasibility of recruiting African American men in barbershops, assessing their physical activity, conducting physical measurements, and gauging their interest in barbershop-based health research. We also estimate the recruiting cost per customer. Results shed light on the potential of barbershops as a setting for future health and physical activity programs aimed at eliminating chronic disease disparities among African American men.

Method

Participant Recruitment

We recruited a convenience sample of barbershops in the cities of Raleigh and Durham, North Carolina, for this pilot study. Our team has 10 years of experience conducting beauty salon and barbershop-based interventions by applying community-based participatory research principles (Linnan et al., 2005; Linnan et al., 2007; Linnan, Rose, Li, & Carlisle, 2009; Linnan, Rose, Li, Diggs, & Carlisle, 2008). An initial list of potential barbershops was compiled after consulting with our advisory board, which is composed of licensed barbers, barbershop owners, directors of schools of cosmetology and barbering, customers, a hair care product distributor, health department representatives, a Cancer Information Service outreach worker, and researchers. To be eligible for this pilot, barbershops needed to have an African American owner, serve predominantly African American customers, not be part of a franchise, and at least the shop owner and one barber willing to participate. We approached six barbershops, all of which expressed interest in participating. None of the barbershops approached for this study had been involved in our previous research concerning barbershops. From these six barbershops, we selected four shops (three in Raleigh and one in Durham) to participate based on research team members' perceptions of the physical size of the shop (e.g., could it accommodate physical measurements) and the number of African American customers who frequented the shop (e.g., shops with more customers were chosen ahead of shops with fewer customers). Each owner received $50 for enrolling their shop in the study.

After shop owners and barbers were enrolled and signed informed consent, trained staff members conducted in-person interviews. Interviews lasted less than an hour and were done in the barbershop during working hours. Each participating owner and barber received $25 for completing an interview.

Trained staff members also recruited customers from the barbershops over 4 weeks, during the barbershops' busiest days (Thursday, Friday, and Saturday). Staff members approached any African American male customer who appeared to be at least 18 years old and confirmed eligibility using the following criteria: male, African American, and at least 18 years old. Once eligibility was confirmed, staff members asked customers if they would be willing to complete a self-administered survey and a physical assessment (called a FITStop) following survey completion. Customers who indicated a "Yes" response to any conditions listed on the Physical Activity Readiness Questionnaire (PAR-Q; Thomas, Reading, & Shephard, 1992) were not eligible to complete a FITStop, though they could still complete the self-administered survey. Participants received $10 for completing the survey and $10 for completing the FITStop.

We conducted all interviews and surveys during January and February 2009. Staff members obtained informed consent from all participating shop owners, barbers, and customers. The institutional review board at the University of North Carolina approved this study.

Measures

Customer survey—The customer survey included key demographic variables, questions about health and physical activity behaviors, and items concerning barbershop use (e.g., how long they had been patronizing the shop; frequency and duration of visits; Tables 1 and 2). We assessed customer interest in learning more about various health topics at their barbershop and classified someone as interested if he indicated at least a moderate level of interest (midpoint of the 5-point scale used) for a given topic. Customers also indicated if they would participate in a variety of health screenings if offered at their barbershop (yes or no for each test) and whether they would be interested in joining a contest to increase physical activity among men if offered at their barbershop (yes or no).

Using two survey items, we determined if customers engaged in at least 150 total minutes of moderate or vigorous physical activity in the last week (U.S. Department of Health and Human Services, 2008). A separate physical activity item asked customers if they engaged in regular physical activity at least once a week (yes or no). Customers estimated their height and weight, which we used to calculate body mass index (BMI) and classify each customer as underweight (BMI: <18.5), normal weight (BMI: 18.5–24.9), overweight (BMI: 25.0–29.9), Obese I (BMI: 30.0–34.9), Obese II (BMI: 35.0–39.9), or Obese III (BMI: ≥ 40.0). Because of small numbers, we combined underweight and normal into one category, as well as Obese II and Obese III.

FITStop—For customers completing the FITStop, we measured height (without shoes; using a stadiometer), weight (without shoes; using a Seca® scale), waist circumference (customer standing; using a retractable tape measure), seated heart rate (seated for 5 min; using a heart rate watch), blood pressure (customer seated; using an automatic oscillometric blood pressure monitor), grip strength (using a hand dynamometer), and cardiorespiratory fitness (YMCA 3-minute step test; heart rate taken at start of test, end of test, 1 min posttest, and 2 min posttest with a heart rate watch). Repeat measurements were taken for height, weight, waist circumference, seated heart rate (if <50 or ≥120 beats per minute), and blood pressure (if systolic blood pressure was ≥160 mmHg or diastolic was ≥100 mmHg).

We calculated BMI from the obtained measurements and used the same BMI classification scheme. We also classified customers as having an elevated blood pressure using cutpoints for out-of-office blood pressure measurements (≥135/85 mmHg; Mancia et al., 2007; Victor et al., 2009). Means were calculated in instances of multiple measurements. Customers with an elevated resting heart rate (≥120 beats per minute) or blood pressure (≥160/100 mmHg) on repeated measurements were not allowed to complete the step test. On average, the FITStop took 16 min (standard deviation [*SD*] = 5 min) to complete.

Shop owner and barber interviews—Interviewers collected data regarding demographics, employment history at the barbershop, barbershop characteristics, and the frequency of conversations with customers (in general and with regard to health) from shop owners and barbers. Interviewers also assessed how comfortable shop owners and barbers would be discussing various health issues with their customers. We classified participants as comfortable if they indicated at least a moderate level of comfort (midpoint of the 5-point scale used) for that issue. An open-ended item was used to collect owners' and barbers' thoughts on promoting exercise and physical activity among African American men through barbershops.

Statistical Analyses

We used descriptive statistics in examining customer, barber, and shop owner data. Analyses were conducted using SPSS 16.0 (Chicago, IL). In an effort to estimate the cost per individual recruited for this study, we calculated the total recruitment cost per customer, taking into account staffing costs, travel, equipment and material costs, and participant incentives.

Results

Customers

Research staff members approached a total of 133 customers, with 111 (83%) determined to be eligible to participate. Overall, 90 customers (81% of the eligible customers, 68% of the customers approached) agreed to complete the self-administered survey. Of those, 51 (57%) were eligible for and completed the FITStop. The final estimate for recruiting cost per each of the 90 customers was $105.92. This estimate includes costs for training 11 part-time research assistants, staffing associated with customer recruitment (182 person-hours), recruitment travel costs, cash incentives for participants (including shop owners, barbers, and customers), and FITStop equipment.

The mean age of customers was 35 years (*SD* = 12 years), and all but four reported being African American (two individuals reported being "multiracial" and two individuals reported being "American"). In the sample, 62% of the men were married or living with a partner, 67% were employed, and 61% reported a household income of less than $40,000 (Table 1). Customers had been using their current barbershop for an average of 49 months (*SD* = 78 months). Most customers reported attending their barbershop at least once every 3 weeks (83%), with many attending at least once a week (37%). Almost all men indicated a typical visit lasts at least 30 min (96%), with more than half (51%) reporting a visit lasting an hour or more.

Although 59% of the customers reported having some form of health care coverage, only 43% indicated having a personal doctor or health care provider (Table 2). Most customers considered their general health to be "excellent" or "very good" (59%), yet almost half were current smokers (47%) and only 2% reported consuming five or more fruits and vegetables per day. Moreover, only 34% reported that they participated in 150 min of moderate or

vigorous physical activity in the last week. Based on self-reported height and weight, the mean BMI was 28 (*SD* = 5), with 41% classified as overweight, 22% as Obese I, and 12% as Obese II/III.

FITStop measurements concerning BMI were comparable with those obtained from self-reported data. The mean BMI was 29 (*SD* = 6), with 20% classified as normal or underweight, 43% as overweight, 20% as Obese I, and 16% as Obese II/III. Sample means for other FITStop measurements included the following: waist circumference = 38 in. (*SD* = 6), seated heart rate = 75 beats per minute (*SD* = 10), heart rate 1 min after completing the step test = 106 beats per minute (*SD* = 19), systolic blood pressure = 134 mmHg (*SD* = 14), diastolic blood pressure = 79 mmHg (*SD* = 10), left hand grip test = 40 kg (*SD* = 10), and right hand grip test = 42 kg (*SD* = 10). In total, 49% of the customers who completed a FITStop were found to have readings that categorized them as having elevated blood pressure. Ironically, all these men indicated during the PAR-Q prior to enrollment that they had never been told by a doctor that they have high blood pressure.

Most participants were willing to receive health screening tests at barbershops and expressed moderately high levels of interest in learning more about health topics through their barbershop (Table 3), with physical activity garnering the most interest (70%). To this end, 79% (67/85) of the customers indicated they would be interested in joining a contest in their barbershop designed to increase physical activity levels among men.

Barbers and Shop Owners

Out of the total of nine barbers from the participating shops, six (67%) completed the interview. Their mean age was 39 years (*SD* = 14 years), and all had at least a high school education. Barbers had been working at their current shop for an average of 56 months (range = 1 month to 20 years), and all reported being at the shop either daily or several times a week and spending anywhere from 5 to 45 min with each customer. Most barbers (83%) indicated they talked “a lot” with their customers, but only one (17%) reported to have talked “a lot” about health with his customers. Most barbers were, however, comfortable in discussing the following health issues with customers (list includes all health issues addressed in the interviews): getting more exercise (100%), high blood pressure (100%), eating more healthfully (100%), weight management (100%), quitting smoking (100%), diabetes (100%), mental health issues (100%), arthritis (100%), visiting a doctor/health care provider (83%), heart disease/stroke (83%), human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS; 83%), prostate cancer (67%), and colon or rectal cancer (50%). All barbers (100%) also believed that promoting physical activity within the barbershops would be a good idea.

Shop owners from all four barbershops were interviewed, with a mean age of 51 years (*SD* = 16 years), and all reported at least a high school education. Shop owners had owned their shops for at least 14 months (range = 14 months to 39 years), and all four were the sole owners of their shop. Owners estimated their shops had anywhere from 60 to 250 customers per week, most of whom were African American (at least 75%). All owners stated they spend more than 15 min with each of their customers during a typical appointment. Although 75% of owners reported talking “a lot” with their customers, none indicated they talked “a lot” with their customers about health specifically. Similar to barbers, owners were comfortable in discussing various health issues with customers (range = 75% to 100% considered comfortable for health issues listed above for barbers). All owners (100%) believed that promoting physical activity within the barbershops would be a good idea.

Discussion

This article summarizes results from a pilot study assessing the feasibility of recruiting African American men in barbershops, conducting physical measurements, and gauging their interest in barbershop-based health research. We successfully recruited 4 barbershops and their owners, 6 barbers, and 90 African American customers to participate in this study during 4 weeks. Although most customers reported poor health behaviors, we found moderately high levels of interest in learning more about health at their barbershop, and almost 60% of the men completed a FITStop assessment. These results have important implications for recruitment of African American men into research studies generally as well as recruitment into physical activity–related studies in barbershop settings.

First, our results demonstrate the ability to recruit African American men through barbershops. Reaching and recruiting African American men into research trials is challenging (Pinsky et al., 2008), and we believe there are few other settings where we might expect to successfully recruit 90 African American men in just 182 person-hours of recruiting time. Many studies advocate for reaching African Americans at churches (Ammerman et al., 2003; Dodani, Kramer, Williams, Crawford, & Kriska, 2009; Goldfinger, Arniella, Wylie-Rosett, & Horowitz, 2008; Thompson, Berry, & Nasir, 2009), but we found that just 50% of African American men reported attending church at least once per month, whereas 92% of these same men reported visiting the barbershop at least once per month. Thus, opportunities for reaching African American men in barbershops and being able to reinforce messages over time seem much more likely in barbershops than in churches.

Customers expressed moderately high interest in learning more about physical activity in their barbershop. Of the health topics examined, physical activity was the one that customers were most interested in learning more about in their barbershops. Furthermore, almost 80% of customers expressed interest in joining a contest in their barbershop designed to increase physical activity levels. Although some customers were not interested in learning more about health in their barbershops or future barbershop-based studies, this was to be expected as no setting will be able to reach everyone (Dzewaltowski, Estabrooks, Klesges, Bull, & Glasgow, 2004; Robroek, van Lenthe, van Empelen, & Burdorf, 2009). Future barbershop-based physical activity studies may also face the challenge of trying to develop physical activity opportunities in the shop when customers come to the shop individually and are on their own schedules. Moreover, physical activity is a complex behavior to attempt to change. However, based on the results of this pilot study, barbershops still represent an interesting possible location for physical activity interventions. Customers expressed interest in this type of intervention, and barbers and owners appear interested in sponsoring this type of intervention.

Recruitment costs for community-based intervention studies are often not reported in the published literature yet are important for planning purposes (Ritzwoller, Sukhanova, Gaglio, & Glasgow, 2009) In our previous beauty salon work, we tested three different salon-level recruitment approaches (phone, visit, and referral), calculated the cost-per-salon recruitment, and found the referral method yielded the best study participation (Linnan et al., 2005). In this barbershop study, we considered the customer-level recruitment costs using a single method refined over a series of studies. In the end, with all incentive costs, travel, personnel, and equipment costs considered, each customer enrolled in the study cost approximately $106. To clarify, this estimate included incentives for customers, barbers, and shop owners, none of which would likely be needed outside the context of a research setting (e.g., a barbershop-based program implemented by a health department). Perhaps even more important is that African American men in this study were found to be a high-risk population with high levels of smoking, elevated blood pressure, and obesity. Spending just

$106 to reach these individuals and get them engaged with health promotion programs, services, treatment, and research studies is a public health bargain. This cost estimate also suggests that it is possible to train part-time staff to deliver a FITStop assessment that is acceptable to customers, barbers, and shop owners. Additional research about recruitment costs and the representativeness of shops for such studies is warranted.

Barbershop owners were eager to partner with us in this study. It has been our experience that barbershop and beauty salon owners tend to be very community-minded individuals who recognize and value the health of their customers (Linnan et al., 2007; Linnan & Ferguson, 2007). The results from this study are consistent with that experience. All owners and barbers we interviewed thought that promoting physical activity in the barbershop was a good idea and expressed interest in offering these types of programs and services for their customers. Our previous work in beauty salons (Linnan et al., 2007) and barbershops (Linnan et al., 2008; Linnan et al., 2009) has used community-based participatory research principles so that owners and barbers were active participants in thinking about the research that is needed in the community and helping us plan our next research steps. The idea and initial plans for the current study was an outgrowth of this collaborative planning process we have undertaken with our advisory board members, all of whom indicated that physical activity would be an important health issue and a topic of interest for African American men who visit barbershops. Thus, we were not surprised that owners and barbers were receptive to this study and future physical activity studies in barbershops. We are therefore strong advocates for the community-based participatory research approach for developing and evaluating interventions to address disparities in health (Minkler & Wallerstein, 2002).

We compared self-reported and measured heights and weights (and the resulting BMIs) for customers providing both forms of data and found high correlations ($n = 48$; all $r > 0.89$; data not shown). The validity (sensitivity = 89%, specificity = 100%) and predictive value (positive predictive value = 100%, negative predictive value = 71%) of self-reported BMI in terms of being overweight/obese were also high and comparable with those reported previously for African American men (Gillum & Sempos, 2005). Although BMI has some limitations as a measure of excess adiposity, our findings suggest that self-reported BMI data for African American men may be sufficient in trials where more accurate measures of body fat and measurement of height and weight are not possible.

Many African American men had elevated blood pressure during their FITStop assessment despite no self-reported history of being told by a doctor that they have high blood pressure. Addressing hypertension in this population is one of the most important strategies for reducing their burden of cardiovascular disease. In addition to serving as a blood pressure screening program and referral mechanism to health care providers (Victor et al., 2009), barbershop programs that promote healthy lifestyles, including increased physical activity, will also help reduce blood pressure. On average, regular aerobic exercise has been shown to reduce blood pressure by 5/4 mmHg in hypertensive individuals and 4/2 mmHg in normotensive individuals (Whelton, Chin, Xin, & He, 2002).

Study Limitations and Strengths

Although this is an initial feasibility study, we feel that several strengths should be acknowledged. First, we focused on African American men, a population at high risk for cardiovascular disease and cancer (American Heart Association, 2009; National Center for Health Statistics, 2009; Ward et al., 2004). Second, we collected data from shop owners, barbers, and customers to gain important information that will be useful for future barbershop-based research. Third, we had good response rates to both surveys and physical assessments.

Regarding study limitations, this was a pilot study and thus enrolled only four barbershops from one geographic area using a convenience sample. We are confident that our community-based participatory research approach, including a long-standing partnership with beauty salons and barbershops in North Carolina, positioned us well for successful barbershop-level recruitment efforts. But we caution others who do not use participatory approaches that it might be more challenging to recruit barbershops and the customers. Although customers reported high interest in participating in future barbershop-based research, there are no guarantees that this would translate into actual participation. Interest levels observed in this study may have been somewhat elevated due to factors such as social desirability. We also did not collect data on current medication use, which may have led to misclassifying some customers as normotensive when they actually have hypertension controlled through medication.

Conclusions

These results indicate that barbershops are an important setting for reaching African American men who are at high risk for many health problems. We also learned that a majority of customers were willing to complete surveys and undergo physical measurements at the barbershop. We found moderately high levels of interest among these customers in receiving health information and services within their barbershops. We also observed high levels of interest in future barbershop-based physical activity studies and programs among owners, barbers, and customers. Our next step is to develop a culturally and contextually appropriate barbershop-based intervention to improve physical activity among African American men and then rigorously evaluate the reach, adoption, and effectiveness of the intervention at both the customer and barbershop levels.

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Table 1

Demographic and Barbershop Patronage Characteristics of Customers (n = 90)

	Mean (*SD*)
Age (years), n = 88	35 (12)
Length of time going to current barbershop (months), n = 85	49 (78)
	n (%)
Race	
African American	86 (96)
Other (except multiracial)	4 (4)
Marital status	
Married/living with partner	56 (62)
Other (divorced, widowed, separated, never married)	34 (38)
Education level	
More than high school	47 (52)
High school or less	43 (48)
Employment status	
Employed (full-time, part-time, self-employed)	60 (67)
Not currently employed	30 (33)
Household annual income level	
Less than $40,000	53 (61)
$40,000 and more	34 (39)
Religiosity	
Attends church or religious services at least once per month	45 (50)
Attends church or religious services less frequently	45 (50)
Frequency of visiting barbershop	
More than once a week	12 (13)
Once a week	21 (23)
Once every 2 to 3 weeks	42 (47)
Once a month	8 (9)
Less frequent	7 (8)
Time spent in barbershop during typical visit	
Less than 30 min	4 (5)
30 min to less than 1 hr	40 (45)
1 hr to less than 1.5 hr	27 (30)
1.5 hr to less than 2 hr	8 (9)
2 hr or more	10 (11)

Note: *SD* = standard deviation. Totals may be less than stated sample size due to missing data.

Table 2

Self-Reported Health Characteristics of Customers (n = 90)

	Mean (*SD*)
Height (in.), n = 88	71 (3)
Weight (lb), n = 87	203 (45)
BMI (kg/m^2), n = 86	28 (5)
	n (%)
BMI category	
Normal/underweight (lower than 25.0)	22 (26)
Overweight (25.0–29.9)	35 (41)
Obese I (30.0–34.9)	19 (22)
Obese II/III (35.0 and higher)	10 (12)
Smoking status	
Current smoker	42 (47)
Nonsmoker	47 (53)
Daily fruit and vegetable consumption	
Five or more	2 (2)
Four or fewer	88 (98)
General health	
Excellent/very good	53 (59)
Good/fair/poor	37 (41)
Personal doctor or health care provider	
Yes	39 (43)
No	51 (57)
Health care coverage	
Yes	53 (59)
No/not sure (n = 4)	37 (41)
Engage in regular physical activity at least once a week	
Yes	50 (57)
No	38 (43)
At least 150 min of moderate or vigorous physical activity in last week	
Yes	30 (34)
No	58 (66)

Note: *SD* = standard deviation; BMI = body mass index. Totals may be less than stated sample size due to missing data. Percentages may not sum to 100% due to rounding.

Table 3

Customers' Willingness to Receiving Screening Tests and Interest in Learning More About Various Health Topics at Barbershops (n = 90)[a]

	Number of Customers Willing to Receive Screening Test at Barbershop (%)[b]
Weight/body fat	72 (84)
Grip strength	74 (84)
High blood pressure	74 (83)
Vision/hearing	72 (82)
High blood cholesterol	72 (81)
Physical fitness	73 (81)
Diabetes	70 (79)
Dental screening	68 (77)
Prostate-specific antigen level	58 (67)
	Number of Customers Interested in Learning More at Barbershop (%)[c]
Getting more exercise	62 (70)
Eating more healthfully	60 (67)
Heart disease/stroke	56 (64)
Diabetes	56 (64)
Eye examinations	56 (64)
Cancer prevention	56 (63)
Cancer screening/early detection	55 (63)
Weight management	55 (62)
High cholesterol	55 (62)
High blood pressure	54 (61)
HIV/STDs	54 (61)
Hearing tests	50 (58)
Mental health issues	51 (57)
Dental health	51 (57)
Quitting smoking	42 (47)

Note: HIV = human immunodeficiency virus; STD = sexually transmitted disease. All screening tests and health topics specifically addressed in the survey are included in the table.

[a] Percentages may have been calculated based on number less than stated sample size due to missing data.

[b] Considered willing if they responded "yes" to a yes/no item.

[c] Considered interested if they indicated at least moderate interest (midpoint of 5-point scale).